

ABSTRACT

MICROWAVE OSCILLATOR OF VERY HIGH STABILITY

The oscillator of the invention is characterized in that it comprises a one-piece dielectric resonator in the form of a right cylinder frustum hollowed out at mid-height along chords of its cross section, so as to leave a central core and two lateral flanges, the drillholes having symmetry of order N , where $N \geq 4$, at least the plane faces of the cylinder being covered with a superconducting material, the resonator being placed in a cryogenic chamber and being connected to an amplifier via optimized couplings, and the tuning of the resonator being done by a magnetic field and a phase loop.

FIGURE 3